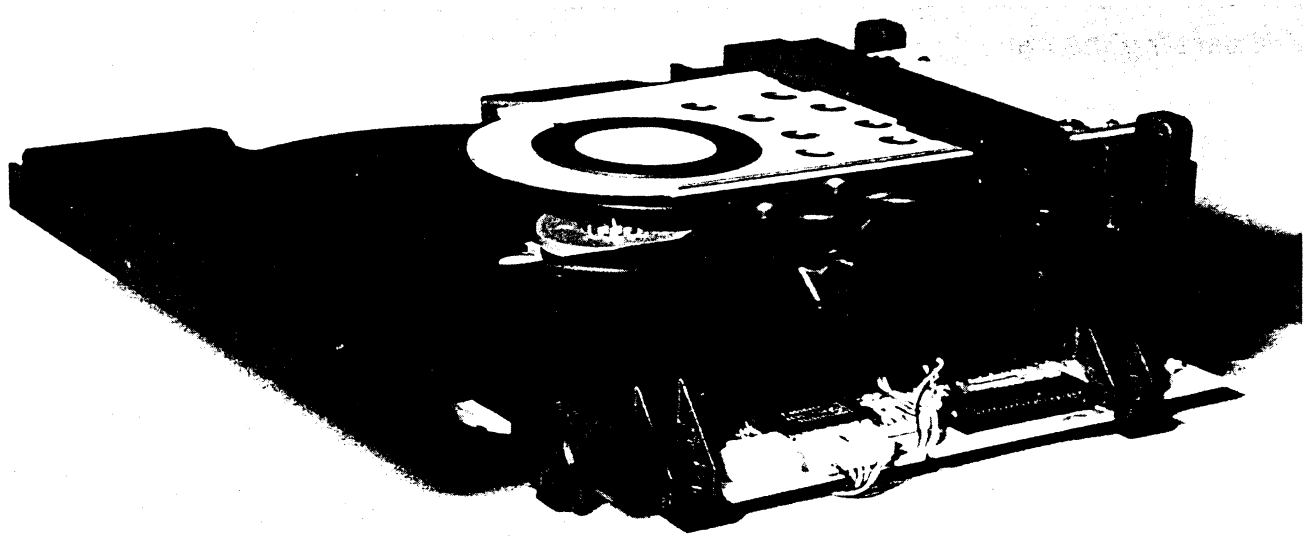


CD SHORT LOADER UNIT

TABLE OF CONTENTS

Dismantling hints 10-2
Disassembly drawings 10-2
Functional Diagram 10-5

CD IF Board
Circuit Diagram 10-6
Component Layout 10-7

Exploded view 10-8
Partslist 10-9

Dismantling hints CD Short Loader

Dismantling the tray

a) Press open/close button to open the tray. If the tray doesn´t work, use a small screwdriver as shown in Fig.1 point 1 to move the tray outside. After the first centimetre it is possible to pull the tray out by hand.

b) Release two snaps and remove tray.

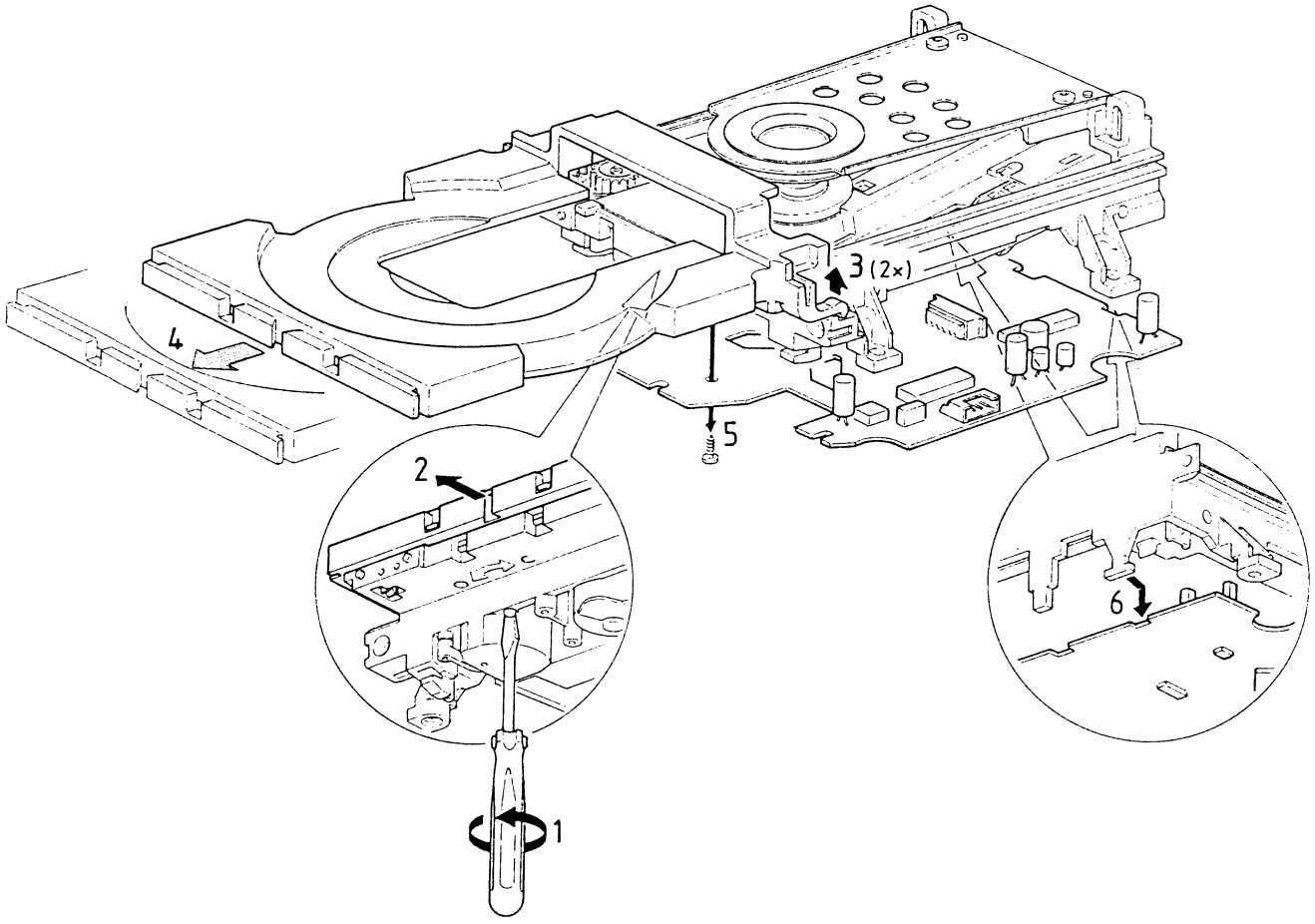


Fig. 1

Assembly of gear

a) Use a pin (e.g. a paperclip) to align the cam wheel (a) withthe gear wheel (b). See Fig. 2.

b) Fix the wheels with the small plastic whashers.

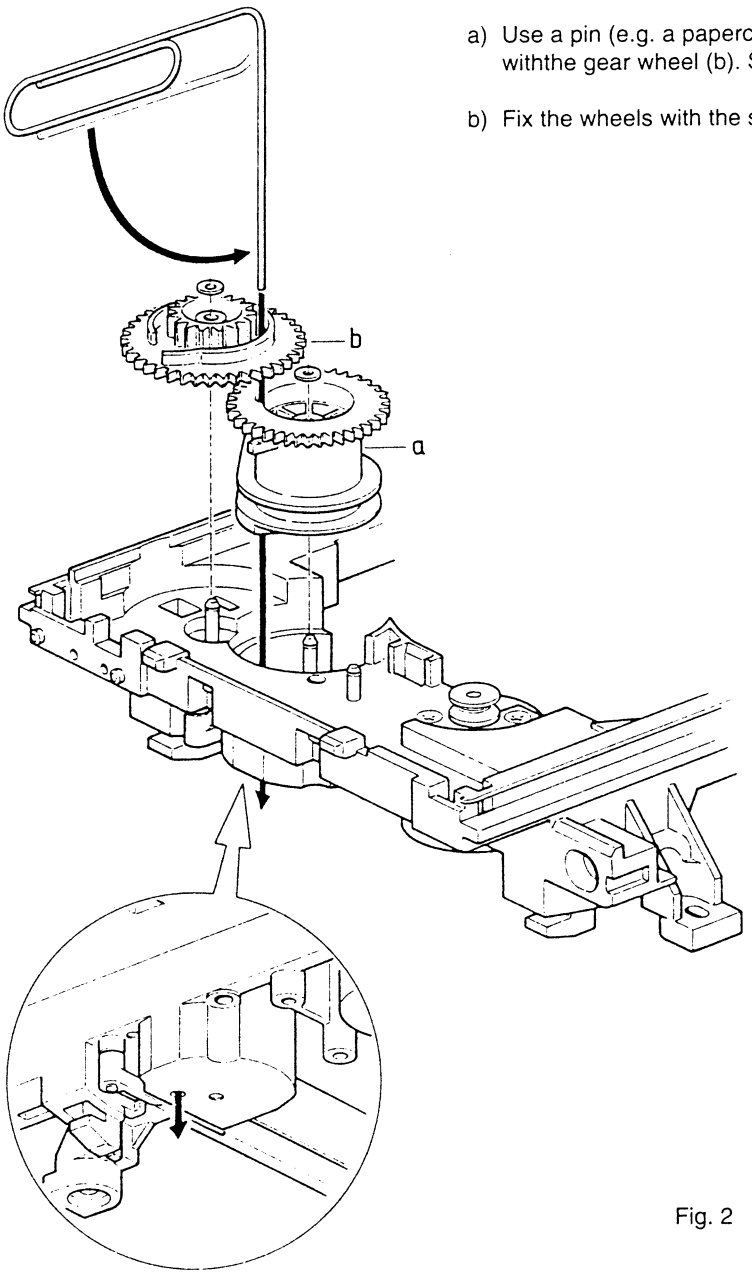


Fig. 2

c) Mount idle wheel 2 (c) and idle wheel 1 (d) in any position. See Fig. 3.

d) Fix the idle wheel 1 (d) with the small plastic whasher.

e) Mount the driving belt.

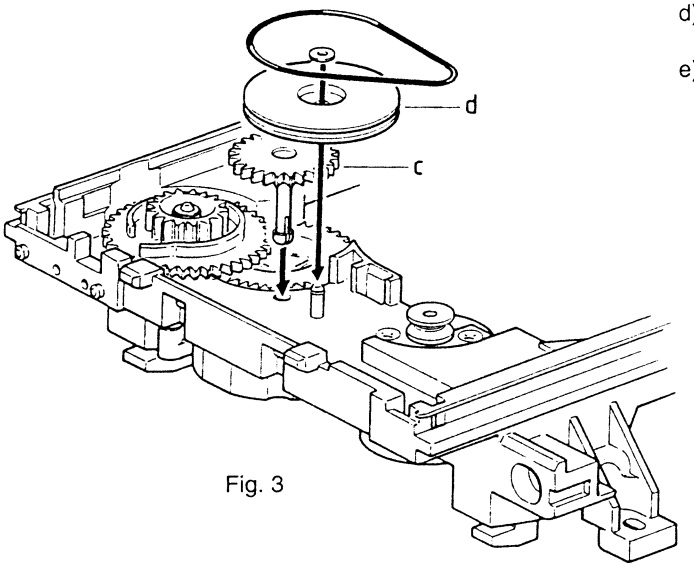


Fig. 3

f) Mount the pinion guiding assy and the cover as shown in Fig. 4.

g) Turn the gear wheel (b) counter clockwise to endposition.

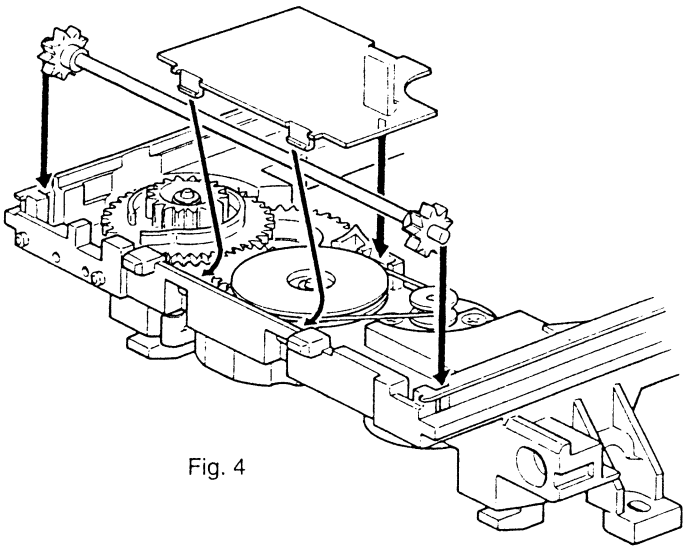


Fig. 4

h) Mount the CD Mechanism as shown in Fig. 5.

i) Mount the tray (Align the tray to the chassis and push it inside).

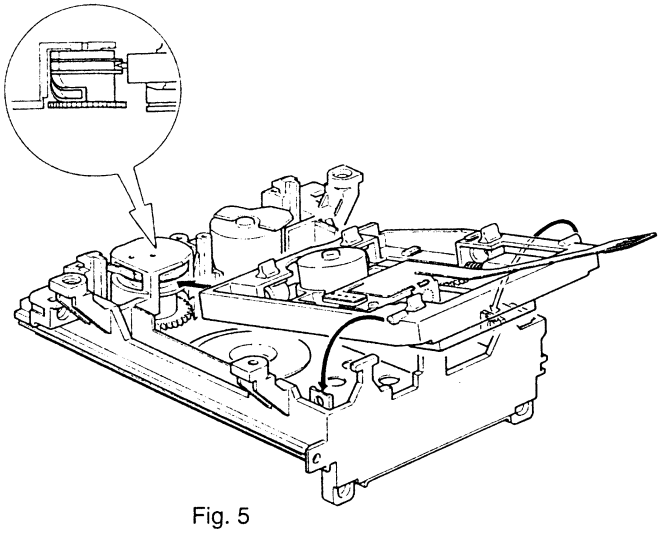


Fig. 5

Check if tray mechanism works correctly!

1) Turn the gear wheel (b) clockwise to its endposition (Use a small screwdriver as shown in Fig. 1 point 1).

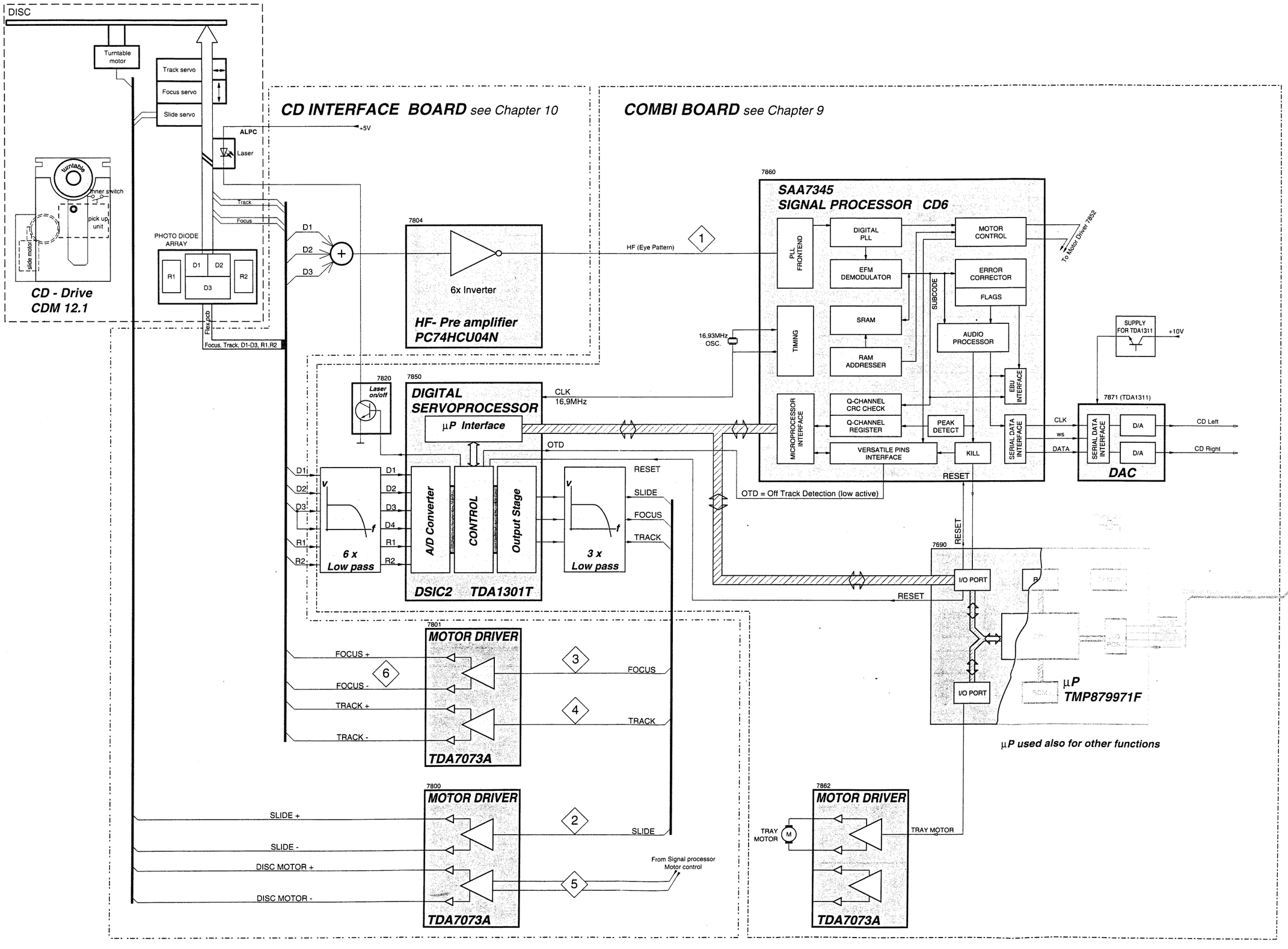
   The tray has to move to inner position first and then the CD mechanism has to move to its upper position.

2) Turn the gear wheel (b) counter clockwise to its endposition.

   The CD Mechanism has to move to its lower position first and then the tray has to move outside.

10-5

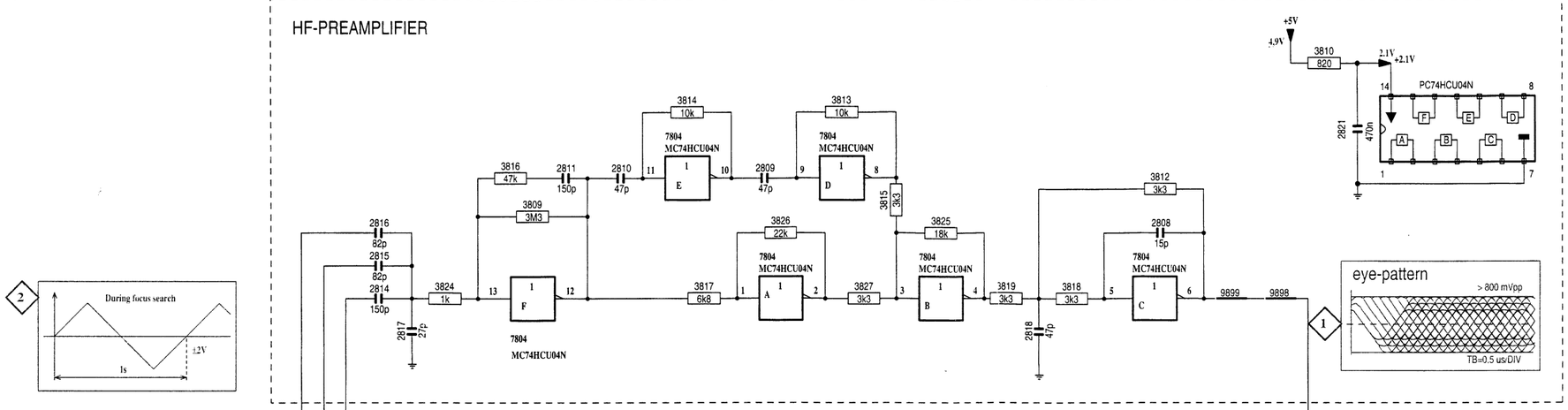
FUNCTIONAL DIAGRAM *CD Short Loader Module*

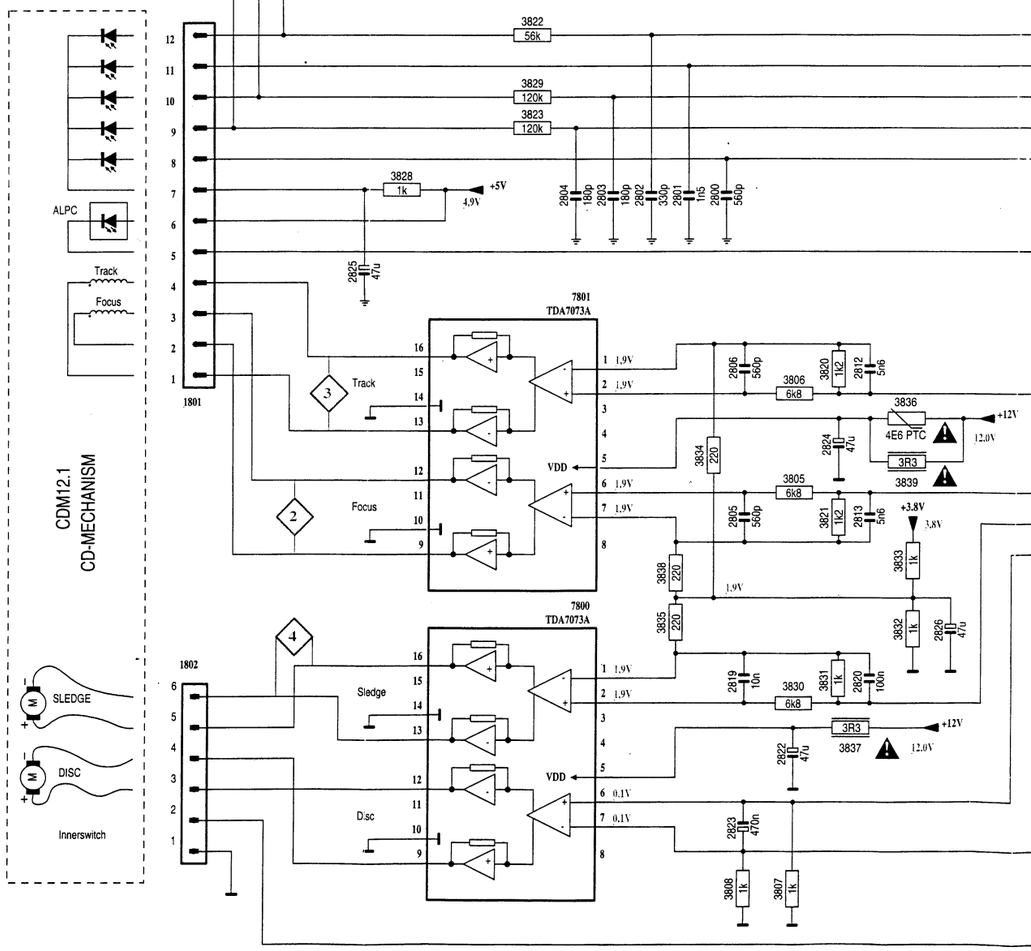


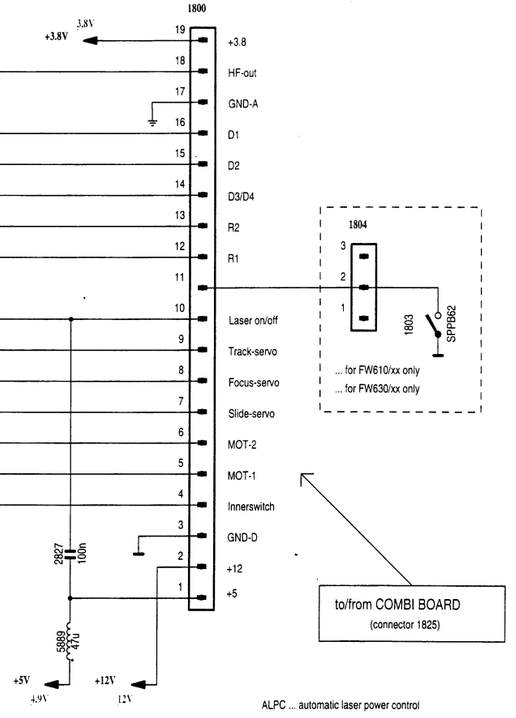
10-6

CD-INTERFACE BOARD

HF-PREAMPLIFIER







ALPC ... automatic laser power control

EVM DC VOLTAGES MEASURED IN PLAY MODE 1kHz 0dB LEVEL

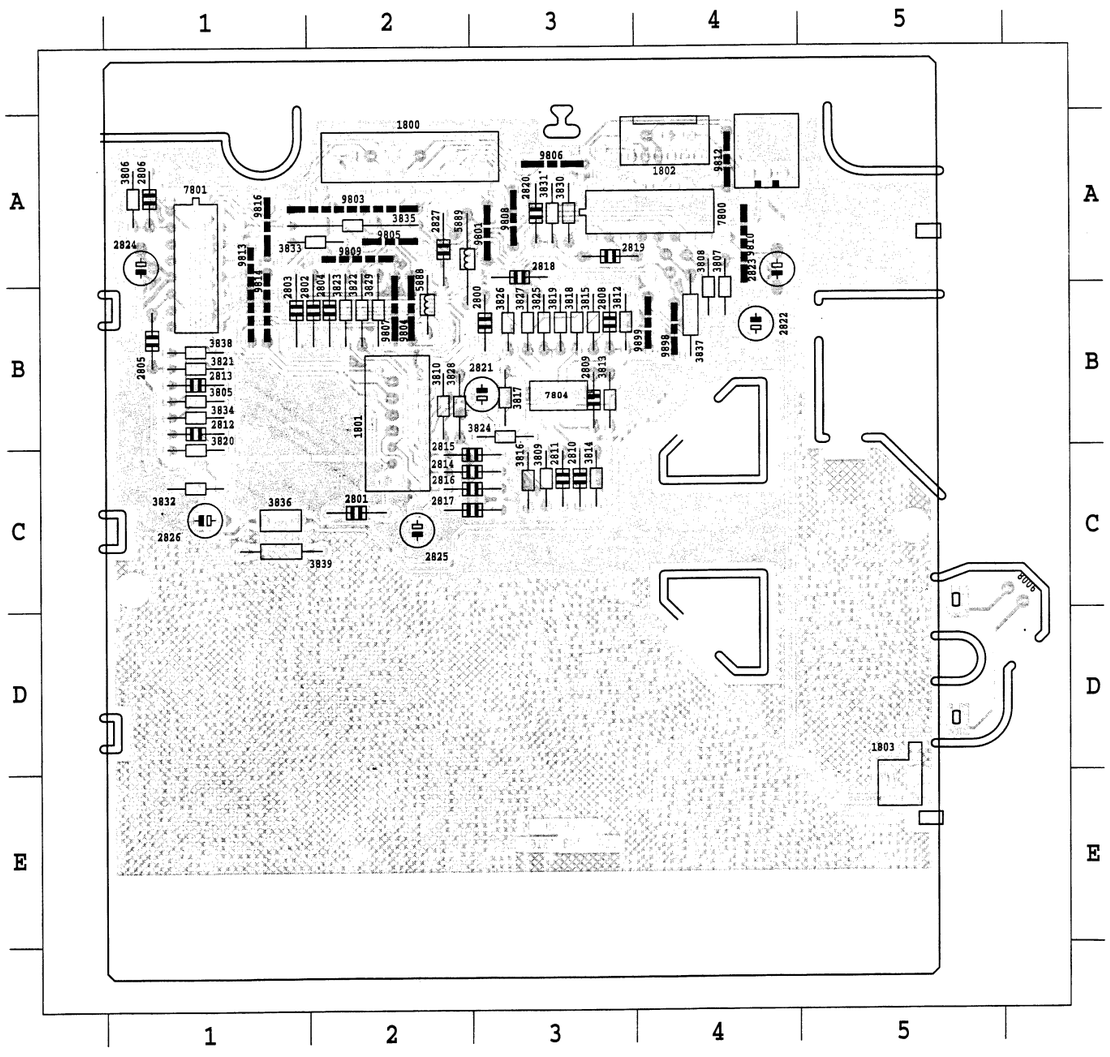
1800 E14
1801 H 3
1802 J 3
1803 H16
1804 G15
2800 F 7
2801 F 7
2802 F 7
2803 F 6
2804 F 6
2805 I 7
2806 G 7
2808 C11
2809 B 8
2810 B 6
2811 B 6
2812 G 8
2813 I 8
2814 C 4
2815 C 4
2816 C 4
2817 D 4
2818 D10
2819 J 7
2820 J 8
2821 B13
2822 J 8
2823 K 7
2824 H 8
2825 G 4
2826 I 9
2827 J13
3805 H 8
3806 G 8
3807 L 8
3808 L 7
3809 C 5
3810 A13
3812 B11
3813 B 8
3814 B 7
3815 B 9
3816 B 5
3817 C 7
3818 C10
3819 C10
3820 G 8
3821 I 8
3822 E 6
3823 E 6
3824 C 5
3825 C 9
3826 C 8
3827 C 8
3828 F 5
3829 E 6
3830 J 8
3831 J 8
3832 I 9
3833 I 9
3834 H 7
3835 I 7
3836 H 9
3837 J 8
3838 I 7
3839 H 9
5888 H12
5889 J13
7800 I 6
7801 G 6
7804 C 7
7804 C 9
7804 C11
7804 B 8
7804 B 7
7804 D 5
9898 C12
9899 C12
T350 E 4
T351 E 4
T352 E 4
T353 E 4
T354 F 4
T355 F 4
T356 F 4
T357 F 4
T358 G 4
T359 G 3
T360 G 3
T361 G 4
T362 J 3
T363 J 3
T364 J 3
T365 K 3
T366 J14
T367 K14
T368 I14
T369 I14
T370 I14
T371 I14
T372 H14
T373 H14
T374 H14
T375 F14
T376 G14
T377 G14
T378 G14
T379 F14
T380 F14
T381 F14
T382 G15
T383 A13
T385 I 9
T386 H 7
T387 J 7
T388 E14

10-7

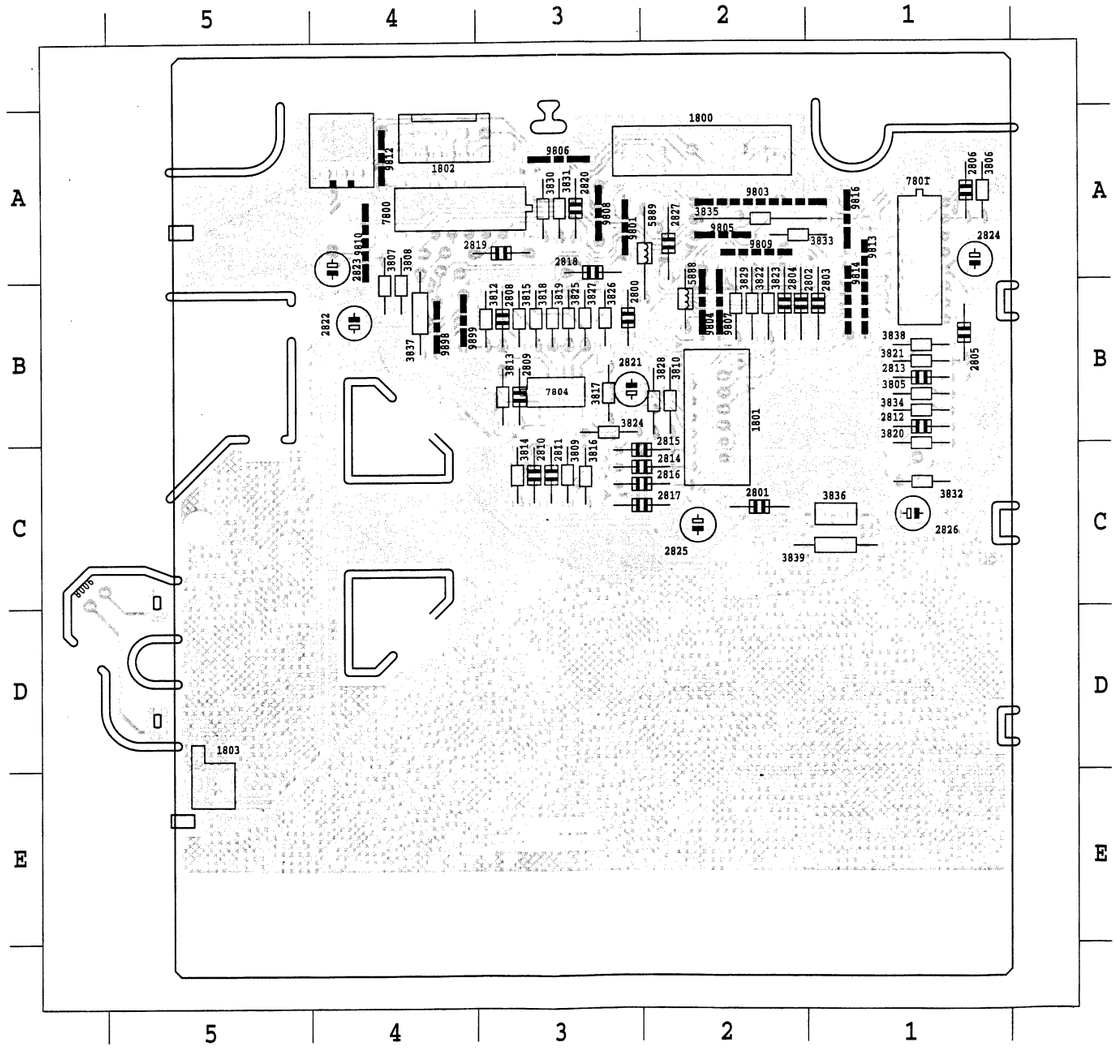
1800 A 2	2805 B 1	2816 C 3	2826 C 1	3814 C 3	3824 B 3	3834 B 1	7804 B 3	9812 A 4
1801 B 2	2806 A 1	2817 C 3	2827 A 2	3815 B 3	3825 B 3	3835 A 2	9801 A 3	9813 B 1
1802 A 4	2808 B 3	2818 A 3	3805 B 1	3816 C 3	3826 B 3	3836 C 1	9803 A 2	9814 B 1
1803 E 5	2809 B 3	2819 A 3	3806 A 1	3817 B 3	3827 B 3	3837 B 4	9804 B 2	9816 A 1
1804 A 4	2810 C 3	2820 A 3	3807 B 4	3818 B 3	3828 B 2	3838 B 1	9805 A 2	9898 B 4
2800 B 3	2811 C 3	2821 B 3	3808 B 4	3819 B 3	3829 B 2	3839 C 1	9806 A 3	9899 B 4
2801 C 2	2812 B 1	2822 B 4	3809 C 3	3820 C 1	3830 A 3	5888 B 2	9807 B 2	
2802 B 2	2813 B 1	2823 A 4	3810 B 2	3821 B 1	3831 A 3	5889 A 2	9808 A 3	
2803 B 1	2814 C 3	2824 A 1	3812 B 3	3822 B 2	3832 C 1	7800 A 4	9809 A 2	
2804 B 2	2815 C 3	2825 C 2	3813 B 3	3823 B 2	3833 A 2	7801 A 1	9810 A 4	

1800 A 2	2805 B 1	2816 C 3	2826 C 1	3814 C 3	3824 B 3	3834 B 1	7804 B 3	9812 A 4
1801 B 2	2806 A 1	2817 C 3	2827 A 2	3815 B 3	3825 B 3	3835 A 2	9801 A 3	9813 B 1
1802 A 4	2808 B 3	2818 A 3	3805 B 1	3816 C 3	3826 B 3	3836 C 1	9803 A 2	9814 B 1
1803 E 5	2809 B 3	2819 A 3	3806 A 1	3817 B 3	3827 B 3	3837 B 4	9804 B 2	9816 A 1
1804 A 4	2810 C 3	2820 A 3	3807 B 4	3818 B 3	3828 B 2	3838 B 1	9805 A 2	9898 B 4
2800 B 3	2811 C 3	2821 B 3	3808 B 4	3819 B 3	3829 B 2	3839 C 1	9806 A 3	9899 B 4
2801 C 2	2812 B 1	2822 B 4	3809 C 3	3820 C 1	3830 A 3	5888 B 2	9807 B 2	
2802 B 2	2813 B 1	2823 A 4	3810 B 2	3821 B 1	3831 A 3	5889 A 2	9808 A 3	
2803 B 1	2814 C 3	2824 A 1	3812 B 3	3822 B 2	3832 C 1	7800 A 4	9809 A 2	
2804 B 2	2815 C 3	2825 C 2	3813 B 3	3823 B 2	3833 A 2	7801 A 1	9810 A 4	

Componentside view

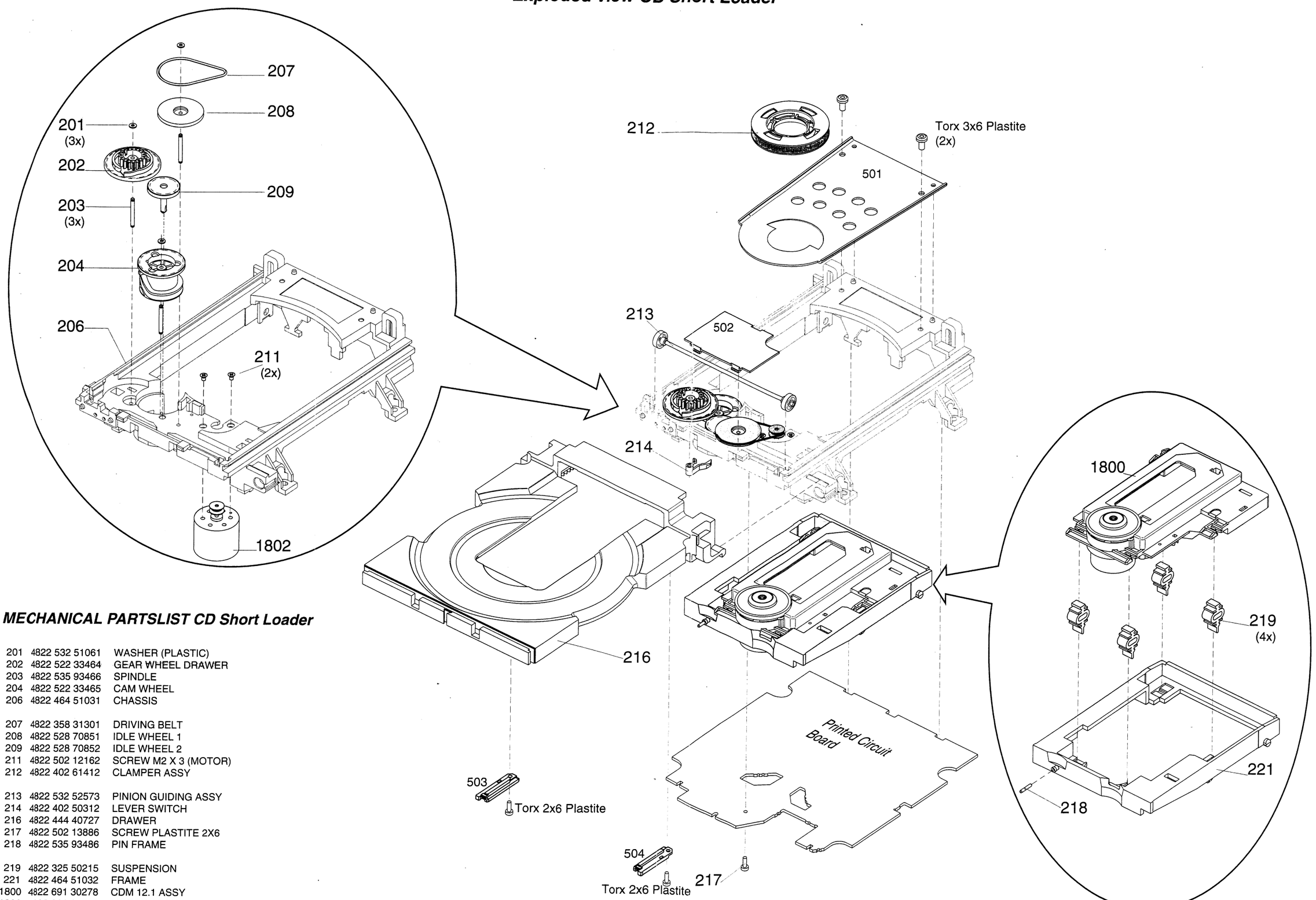


Copperside view



10-8

Exploded view CD Short Loader



MECHANICAL PARTSLIST CD Short Loader

201	4822 532 51061	WASHER (PLASTIC)
202	4822 522 33464	GEAR WHEEL DRAWER
203	4822 535 93466	SPINDLE
204	4822 522 33465	CAM WHEEL
206	4822 464 51031	CHASSIS
207	4822 358 31301	DRIVING BELT
208	4822 528 70851	IDLE WHEEL 1
209	4822 528 70852	IDLE WHEEL 2
211	4822 502 12162	SCREW M2 X 3 (MOTOR)
212	4822 402 61412	CLAMPER ASSY
213	4822 532 52573	PINION GUIDING ASSY
214	4822 402 50312	LEVER SWITCH
216	4822 444 40727	DRAWER
217	4822 502 13886	SCREW PLASTITE 2X6
218	4822 535 93486	PIN FRAME
219	4822 325 50215	SUSPENSION
221	4822 464 51032	FRAME
1800	4822 691 30278	CDM 12.1 ASSY
1802	4822 361 21708	MOTOR ASSY
	4822 502 30735	SCREW 3 X 6 PLASTITE

ELECTRICAL PARTSLIST CD INTERFACE BOARD

MISCELLANEOUS

1800	4822 267 60412	FLEX PRINT CONNECTOR
1803	4822 276 13503	SWITCH

INTEGRATED CIRCUITS

7800	4822 209 32852	TDA7073A/N2
7801	4822 209 32852	TDA7073A/N2
7804	5322 209 11517	PC74HCU04T

COILS

5888	4822 157 53906	47µH	10%
5889	4822 157 53906	47µH	10%

RESISTORS

3805	4822 116 52296	6k8	5%	0,5W
3806	4822 116 52296	6k8	5%	0,5W
3807	4822 050 11002	1k	5%	0,2W
3808	4822 050 11002	1k	5%	0,2W
3809	4822 111 50499	3M3	5%	0,2W
3810	4822 116 52231	820R	5%	0,5W
3812	4822 116 52269	3k3	5%	0,5W
3813	4822 116 83864	10k	5%	0,5W
3814	4822 116 83864	10k	5%	0,5W
3815	4822 116 52269	3k3	5%	0,5W
3816	4822 116 52284	47k	5%	0,5W
3817	4822 116 52296	6k8	5%	0,5W
3818	4822 116 52269	3k3	5%	0,5W
3819	4822 116 52269	3k3	5%	0,5W
3820	4822 116 52207	1k2	5%	0,5W
3821	4822 116 52207	1k2	5%	0,5W
3822	4822 116 52291	56k	5%	0,5W
3823	4822 116 52239	120k	5%	0,5W
3824	4822 050 11002	1k	5%	0,2W
3825	4822 116 52251	18k	5%	0,5W
3826	4822 116 52257	22k	5%	0,5W
3827	4822 116 52269	3k3	5%	0,5W
3828	4822 050 11002	1k	5%	0,2W
3829	4822 116 52239	120k	5%	0,5W
3830	4822 116 52296	6k8	5%	0,5W
3831	4822 050 11002	1k	5%	0,2W
3832	4822 050 11002	1k	5%	0,2W
3833	4822 050 11002	1k	5%	0,2W
3834	4822 116 52215	220R	5%	0,16W
3835	4822 116 52215	220R	5%	0,16W
3836	4822 116 40227	PTC	4R6	
3837	4822 052 10338	3R3		NFR25
3838	4822 116 52215	220R	5%	0,16W

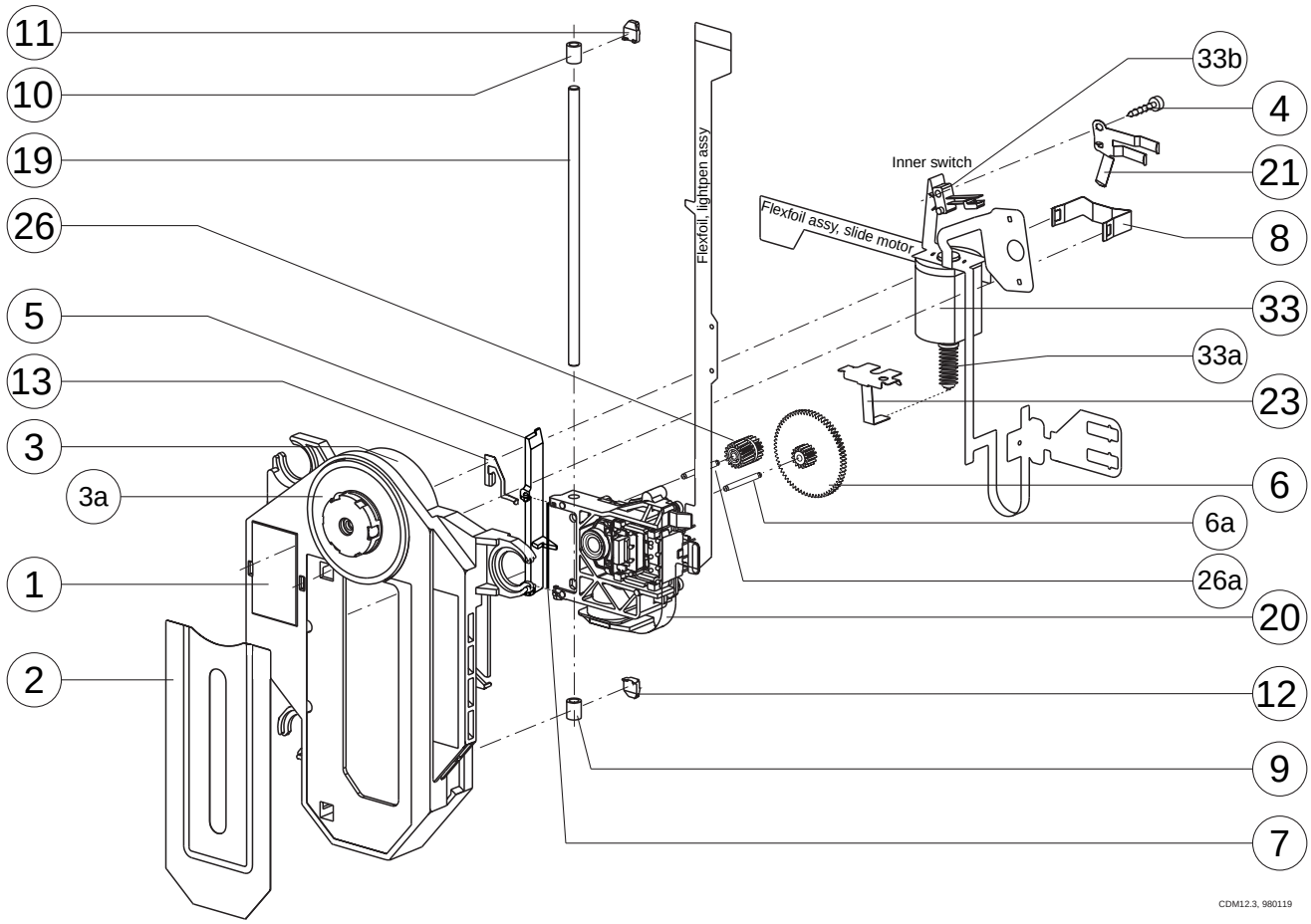
CAPACITORS

2800	4822 122 10459	560pF	10%	50V
2801	4822 126 12878	1,5nF	10%	16V
2802	4822 126 12787	330pF	10%	50V
2803	4822 126 10053	180pF	10%	50V
2804	4822 126 10053	180pF	10%	50V
2805	4822 122 10459	560pF	10%	50V
2806	4822 122 10459	560pF	10%	50V
2808	4822 122 10462	15pF	5%	50V
2809	4822 122 33848	47pF	5%	50V

CAPACITORS

2810	4822 122 33848	47pF	5%	50V
2811	4822 122 33849	150pF	10%	50V
2812	4822 126 13098	5,6nF	20%	16V
2813	4822 126 13098	5,6nF	20%	16V
2814	4822 122 33849	150pF	10%	50V
2815	4822 122 10319	82pF	5%	50V
2816	4822 122 10319	82pF	5%	50V
2817	4822 122 33192	27pF	5%	50V
2818	4822 122 33848	47pF	5%	50V
2819	4822 121 51387	10nF	20%	16V
2820	4822 126 12882	100nF	20%	50V
2821	4822 124 41407	0,47µF	20%	63V
2822	4822 124 40433	47µF	20%	25V
2823	4822 124 40999	0,47µF	20%	50V
2824	4822 124 40433	47µF	20%	25V
2825	4822 124 40433	47µF	20%	25V
2826	4822 124 40433	47µF	20%	25V
2827	4822 126 12882	100nF	20%	50V

COMPACT DISC DRIVE CDM12.3BLC – 4822 691 10487 FOR ORIENTATION ONLY



TECHNICAL SPECIFICATION CDM12.3BLC

Focus/radial tracking actuator	**CDM12.3BLC**
Working area:	
focus	±0.5mm
radial tracking	0.35mm min.
DC sensitivity:	
focus	1mm/V ±20%
radial tracking	0.24mm/V ±20%
AC sensitivity (200Hz):	
focus	0.16N/A ±20%
radial tracking	0.25N/A ±20%
Resonance frequency:	
focus	30Hz +7Hz
radial tracking	49Hz ±5Hz
Coil resistance:	
focus	7.1Ω ±15%
radial tracking	18Ω ±15%
Laser diode	
Laser wavelength (30°C)	780nm ±20nm
Max. power intensity out of lens	≤0.5mW
Nom. laser current	36mA (47mA max.)
Slide motor	
Motor type	FF-030PK-08250
Resistance (20°C)	13.8Ω ±10%
Starting voltage in application	0.6V typ. (1.2V max.)
Disc readout diameter	47.4...117.5mm
Turntable motor	
Motor type	RF-410CH-12250
Resistance (20°C)	5.7Ω ±8%
Operating voltage in application	0.5V typ.

PARTSLIST

1	Mounting plate assy	11	Clamping plate (spindle)
2	Ornam. plate assy	12	Clamping plate (spindle)
3	Turntable + motor	13	Contact spring (earth)
3a	Turntable	19	Spindle
4	Screw M1.6x8 Torx	20	Light pen assembly
5	Guide block (toothed bar)	21	Earth spring
6	Gearwheel	23	Pivot spring
6a	Spindle	26	Idler wheel
7	Spring wire	26a	Spindle
8	Clamping bracket	33	Slide motor assembly
9	Sleeve (spindle)	33a	Wormwheel
10	Sleeve (spindle)	33b	Inner switch

Remark: The CDM12.3BLC is only available as complete assembly, and as such not repaired. This sheet is published for standardized descriptions of failure causes, only.

HANDLING RECOMMENDATIONS

- Storage in dusty environments should be avoided.
- To avoid damage of the light pen assembly by electrostatic discharges, measuring equipment and operators must be grounded during handling.
- Contamination of the objective lens will influence the performance. Avoid fingerprints on the lens.
- The actuator with lightpath has been adjusted carefully during manufacturing. Avoid high forces on this part. Do not disassemble or re-adjust.
- The laserbeam may damage the human eye. Do not look directly into the objective lens.
- Fast heating up (e.g. by bringing the CDM from a cold place into a warm and humid room) can result in moisture condensating on the lens, thus influencing the playability for a certain time. Before checking the performance the CDM should acclimatize for at least 30 minutes.